

REMARKS/ARGUMENTS

Claims 1 and 3-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) in view of Jones '784 and Ball; claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Jones '784 and Ball as applied to claim 1, and further in view of Ang; claims 15 and 17-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Jones '784 and Ball as applied to claims 1 and 3-8, and further in view of Hakomori; and claim 16 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Jones '784, Ball, and Hakomori as applied to claim 15, and further in view of Ang.

Claim 1 of the instant invention comprises the limitation of applying chemical to the spin-on glass protuberance at said outer edge of said semiconductor wafer; and engaging the rotating grinding member with the spin-on glass protuberance at the outer edge of the rotating semiconductor wafer. In forming the rejection to claim 1 the examiner combines APA with the Jones '784 et al. and Ball et al. patents. In describing the relevant sections of the Ball et al. patent the examiner states that, "[B]all et al. disclose that it is well known to apply a chemical, which is hydrofluoric acid to the outer edge of a semiconductor wafer to aid in removing material from the wafer." This is not what the Ball et al. patent teaches. The Ball et al. patent teaches polishing over the entire wafer surface as shown in Figure 10 of the Ball et al. patent. In such a process the slurry must cover the entire surface of the wafer this is what the Ball et al. patent teaches. In all CMP processes the slurry must be introduced to the surface of the wafer at some point. This can be done at any position along the wafer surface including the edge. Upon introduction of the slurry to the wafer surface, the slurry is then transported to all parts of the wafer surface. This is different from what is claimed in the instant invention. In the instant invention, the slurry is not transported to the wafer surface. Instead, as is claimed in claim 1, the slurry is applied to the protuberance at the wafer's edge which is then polished. Therefore the cited prior art does not encompass the limitations of claim 1 and claim 1 is allowable over the cited art. In addition, claims 2-8

depend on claim 1 and contain all the limitations of claim 1. Claims 2-8 are therefore also allowable over the cited art.

The Hakomori patent discloses grinding a semiconductor wafer during the formation of the wafer. There is nothing in the Hakomori patent that suggests that such a grinding process can be applied to any additional layer formed on the semiconductor wafer. In addition, the Hakomori patent is from the semiconductor wafer manufacture art and the Jones et al. and Ball et al. patents are in the integrated circuit manufacture art. These are completely different disciplines and there can be no suggestion to combine these patents. Claim 15 comprises the limitation of forming a SOG layer and grinding the SOG layer immersed in a chemical. These limitations are not found in the cited prior art and claim 15 is allowable over the prior art. Claims 16 – 20 depend on claim 15 and contain the limitations of claim 15. Claims 16 – 20 are therefore also allowable over the cited art.

In light of the above, it is respectfully submitted that the present application is in condition for allowance, and notice to that effect is respectfully requested.

While it is believed that the instant amendment places the application in condition for allowance, should the Examiner have any further comments or suggestions, it is respectfully requested that the Examiner contact the undersigned in order to expeditiously resolve any outstanding issues.

To the extent necessary, Applicants petition for an Extension of Time under 37 CFR 1.136. Please charge any fees in connection with the filing of this paper, including

extension of time fees, to the deposit account of Texas Instruments Incorporated,
Account No. 20-0668.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Peter K. McLarty', with a long horizontal flourish extending to the right.

Peter K. McLarty
Attorney for Applicants
Reg. No. 44,923

Texas Instruments Incorporated
P.O. Box 655474, MS 3999
Dallas, TX 75265
(972) 917-4258